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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 10**
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Date: September 22, 2009

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Through: Sheila Eckman, Unit Manager Site Cleanup Unit 3, Office of Environmental Cleanup

To: Linda Anderson-Carnahan, Acting Associate Director, Office of Environmental Cleanup

Subject: Recommendation to Sign the Sitewide Ready for Anticipated Use Determination for the North Market Street Superfund Site, Spokane, Washington

The North Market Street Site (Site) is located in portions of Sections 15, 16, 21, 22, 27, and 28 Township 26 North, Range 46 East Willamette Meridian (WM), about one mile north of the City of Spokane (Figure 1). Underlying the Site is the Spokane Valley-Rathdrum Prairie Aquifer (Spokane Aquifer), which was designated as a "Sole Source Aquifer" in 1978 and provides the drinking water for approximately 500,000 people.

In 1990 the US Environmental Protection Agency (EPA) listed the Site on the federal Superfund National Priorities List (NPL) of hazardous waste sites requiring cleanup. After the Site was listed, the Washington Department of Ecology (Ecology) assumed the lead to direct cleanup under the authority of the Model Toxics Control Act (MTCA) (Chapter 70.105D RCW).

The Remedial Investigation (RI) was completed in 1996. The Site is defined as the area of soil contamination and the groundwater contaminant plume. This definition includes the fuel terminal currently operated by the Holly Energy Partners (Facility) and the aerial extent of the groundwater plume where contaminants above background levels have been detected. The contaminants of concern identified at the Site include petroleum hydrocarbons, benzene, toluene, ethylbenzene, xylene (BTEX), polycyclic aromatic hydrocarbons (PAHs), arsenic, and manganese.

RI results showed the presence of petroleum hydrocarbon, PAH, BTEX, and metal contamination in Site near-surface soil (less than 15 feet); in deep soil to depths of 60 feet; and in soil at the water table (smear zone) about 150 to 170 feet below ground surface. The RI also documented petroleum hydrocarbon and BTEX concentrations in soil vapor at depths of 50 feet and 100 feet and below. Petroleum and BTEX chemicals were also identified in groundwater and were detectable extending for about one mile

within the Spokane Aquifer. The groundwater flow direction beneath the site is north-northwest. Petroleum and BTEX chemicals continue to be present in groundwater.

The RI was followed by a Feasibility Study of Remedial Alternatives, from which Ecology developed a MTCA Cleanup Action Plan (CAP) for the Site. The cleanup action consisted of shallow soil removal and on-site thermal treatment, installation and operation of an air sparging groundwater treatment system, installation and operation of a vadose zone bioventing system, and institutional controls. The groundwater point of compliance was established to be the uppermost level of saturated zone to the lowest depth which could be potentially affected by the Site over the entire site. Groundwater cleanup levels are expected to be met in all groundwater from the point of compliance to the outer boundary of the hazardous waste plume.

| Impacted Media | Cleanup Goals |
|---|---|
| **Contaminated Groundwater** | MTCA Method A cleanup levels were used to set the site specific cleanup levels for the following GW COCs: TPH cleanup level = 1,000 micrograms per liter (ug/l or ppb). Ethylbenzene cleanup level = 30 ppb; Toluene cleanup level = 40 ppb; Xylene cleanup level = 20 ppb; Arsenic cleanup level ~~for arsenic~~ is 5 ppb. The benzene MCL was used to set the cleanup level of 5 ppb. |
| **Contaminated soil** | TPH cleanup level of 6,000 ppm, derived using Ecology's Interim TPH Policy. Benzene cleanup level is 0.5 ppm; Carcinogenic PAH cleanup level is 1 ppm. Ethylbenzene and xylene cleanup levels are set at the Method A level of 20 ppm. Toluene cleanup level is set at 40 ppm. A hazard quotient of 0.61 and a total risk of 1.83 x 10-6 was produced with the cleanup level set at 6,000 ppm. The resulting modeled concentration at the well was 0.9780, just under the required 1 mg/L. |

**Table 1:** List of impacted media and associated cleanup goals for the North Market Street site

The CAP was implemented at the Site. The shallow soil excavation removed soils from 15 to 20 feet below ground surface, which is below the soil point of compliance, for treatment. Due to the proximity of underground utilities (i.e. natural gas and fuel pipelines) and contamination below practical excavation techniques, contaminated soil that exceeds cleanup levels remains at the Site. However, because the receptors and exposure pathways identified in the CAP have not changed, and the completed remedy eliminated the direct soil exposure pathway and established institutional controls to prevent future exposure, the remedy remains protective.

The excavation and soil treatment removed a large contaminant source for groundwater. The air sparging system has reduced and continues to reduce downgradient contaminant

concentrations. As a result, the groundwater plume has reduced in size since the cleanup actions were initiated. Groundwater concentrations remain above cleanup levels in some fuel terminal facility wells and wells immediately downgradient of the facility. However, the overall trends indicate a general decline in contamination, and the return of a portion of the aquifer to below cleanup levels.

Post-closure monitoring began in August 2002 and will continue in accordance with the compliance monitoring plan.

MTCA requires that where cleanup levels are exceeded, a restrictive covenant must be placed with the deed. Restrictive covenants were placed on the fuel terminal property and other properties that overlay the groundwater plume. The covenants included the following restrictions: no withdrawal of water, maintenance of fences and locked gates, and no actions that may facilitate a release or create an exposure pathway. Institutional controls were placed on the subject properties by January 2003. The controls are therefore in place and will remain so until Ecology determines they are no longer warranted.

Ecology completed a periodic review of the Site and remedy in February 2008. It confirmed that the Site and adjacent properties continue to be in use and concluded that the selected remedial action continues to be protective of human health and the environment. The shallow soil excavation and treatment eliminated the direct contact pathway for contaminated soil. The soil removal and treatment also removed a large groundwater contaminant source. The bioventing system continues to enhance biodegradation of soil vapor. Soil vapor concentrations continue to decline across the Site. While source removal and operation of the treatment systems has generally decreased groundwater contamination across the Site, since groundwater cleanup levels have not been met at the point of compliance, the treatment systems and institutional controls will remain in affect.

The Site is comprised of a currently operating fuel distribution facility and other commercial and light industrial land uses. Site use is reasonably anticipated to remain light industrial and commercial in the future.

EPA conducted a Title Search in July, 2008 which confirmed that the required institutional controls had been properly recorded, remain in effect, and run with the land. Based on EPA and Ecology's understanding of the Site, the controls in place are adequate and effective.

| **Media, Engineered Controls, & Areas that Do Not Support UU/UE Based on Current Conditions.** | **IC Objective in Decision Document** | **Physical Area covered by Implemented Institutional Control** |
|---|---|---|
| Site Soils | To prevent exposure to contaminated soil: maintain fences and locked gates and prohibit excavation or other actions that may facilitate a release or create an exposure pathway. | Controls are in effect on the fuel terminal facility as well as properties overlying groundwater above cleanup levels. |

| | | |
|---|---|---|
| Groundwater | To restrict development of the groundwater resource near the smear zone and prevent exposure to contaminated GW, withdrawl of groundwater is prohibited | Controls are in effect on the fuel terminal facility as well as properties overlying groundwater above cleanup levels. |

**Table 2**: Summary of Institutional Controls at the North Market Street site

The Tosco Refining Company (Tosco) and Phillips Petroleum Company (Phillips) were the potentially responsible parties (PRPs) that conducted the cleanup action at the Site. The PRPs implemented the CAP pursuant to a Consent Decree with Ecology dated December 12, 2000. During the completion of the cleanup action the two companies merged. After the Phillips/Tosco merger, Phillips again merged with Conoco to form ConocoPhillips Company.

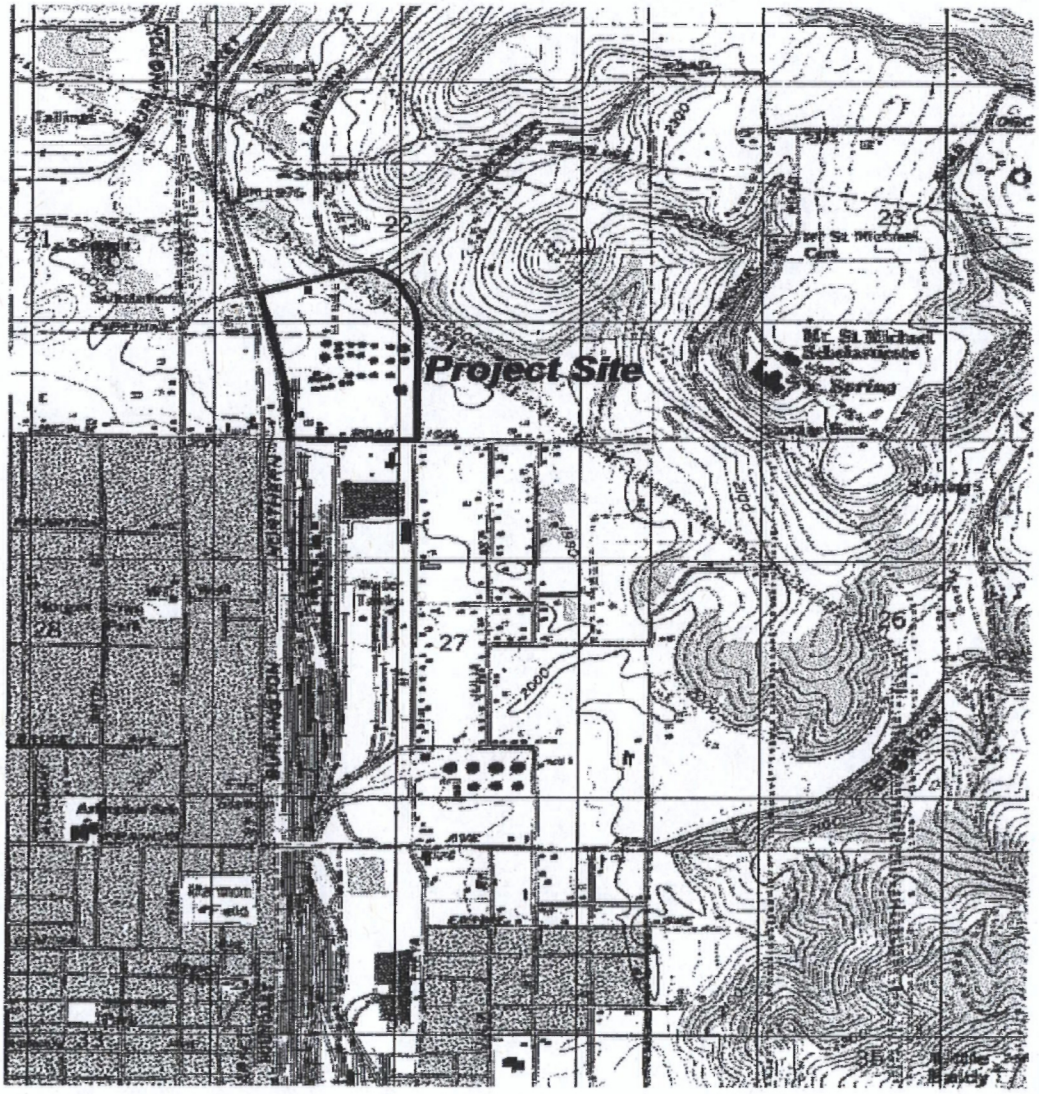
Based on the above information and all documents reviewed for this Site, we find that the Site meets the following requirements:

- All cleanup goals in the ROD or other decision document have been achieved for any media that may affect current and reasonably anticipated future land uses, so that there are no unacceptable risks.
- While no institutional controls are required pursuant to CERCLA, the institutional controls required by the State pursuant to MTCA are in place and effective.

Therefore, we recommend that you sign the attached Site-wide Ready for Anticipated Use Certification.

Per Tim,
GW cleanup goals in ROD not yet achieved but ICs in place so no unacceptable risks
JPC 4/22/09

# FIGURES

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Scale 1:24,000

Source: U.S. Geological Survey
7.5 Minute Series Map
Spokane Northeast Quadrangle
1973 Photorevised in 1986

North Market Street Site
Spokane, Washington

Vicinity Map

FIGURE 1

Figure 1

# NORTH MARKET STREET
# SPOKANE, WASHINGTON
# SITE HISTORY

- The Montana Headlight Oil Company and Inland Empire Refineries reportedly began refinery operations on-site in the late 1930's. Wasatch Oil Company of Utah purchased the refineries in 1945. By the late 1940's the refinery complex had an estimated daily output of approximately 314,832 gallons of refined petroleum products. Wasatch Oil Company operated the refinery until about 1948, when it was sold to Phillips Petroleum Company.

- Phillips Petroleum Company operated the refinery until late 1953 when the refinery operations were discontinued and decommissioned. The Petroleum Terminal Company, a subsidiary of Phillips Petroleum, converted the refinery to a distribution terminal and operated the distribution facility until 1976. The facility was sold to the Tosco Corporation and is currently operated by them as a tank farm and terminal facility.

- During refinery operations, liquid wastes containing organic compounds were discharged into a series of unlined oily waste ponds located in the northwestern portion of the property. In addition, a series of release incidents have occurred at the fuel terminal, most notably a 40,000 gallon release of unleaded fuel in 1989. Over 2,000,000 gallons of pipeline hydrostatic test waters containing gasoline with concentrations of 700 to 2,700 ppm were discharged following pipeline tests in 1974 and 1980.

- In 1984 state officials confirmed the presence of petroleum contamination in groundwater from samples collected at three private water supply wells in the area. Use of those wells was discontinued and Ecology began supplying bottled water to users at that time. In 1991, the North Spokane Irrigation District No. 8 began providing a potable water supply to users previously requiring alternate supplies.

- Ecology, through a remedial contractor Golder Associates, began remedial investigations at the Site in 1985. Golder Associates completed work for Ecology in 1988, which resulted in the completion Phases I, II, and III Remedial Investigations.

- The North Market Street was nominated for the Superfund National Priorities List (NPL) in 1988. In 1990 the US Environmental Protection Agency (EPA) listed the North Market Street Site on the NPL. After the Site was listed, Ecology assumed the lead to direct cleanup under the authority of MTCA.

- On May 15, 1991, Ecology issued final determinations of PLP status to Tosco, Chevron, Phillips, and Burlington Northern as an owner and/or operator of the facility.

- The PLPs began the Phase I Remedial Investigation in 1993 under an Agreed Order.

Order. The Amendment to the Order provided for performance of a Phase II Remedial Investigation and Feasibility Study. A De Minimis Consent Decree settlement was signed between Ecology and BN in February 1995. This settlement removed BN from the North Market Street Group.

- The North Market Street Group, now consisting of Tosco, Chevron, and Phillips, completed the Phase II Remedial Investigation in June 1996. Supplemental RI work was conducted after finalization of the Phase II report to provide additional information on the size and characteristics of the groundwater contamination plume.

- In June 1998, Ecology issued an Enforcement Order to the North Market Street Group to complete additional groundwater and soil gas monitoring of monitoring points and treatability testing of smear zone soil samples. The Feasibility Study (FS) was finalized in July 1998 after a 30-day public comment period. The FS did not include the information generated from the work completed under the Enforcement Order.

- Ecology completes the draft cleanup action plan (DCAP) for the Site. DCAP is currently undergoing internal review.